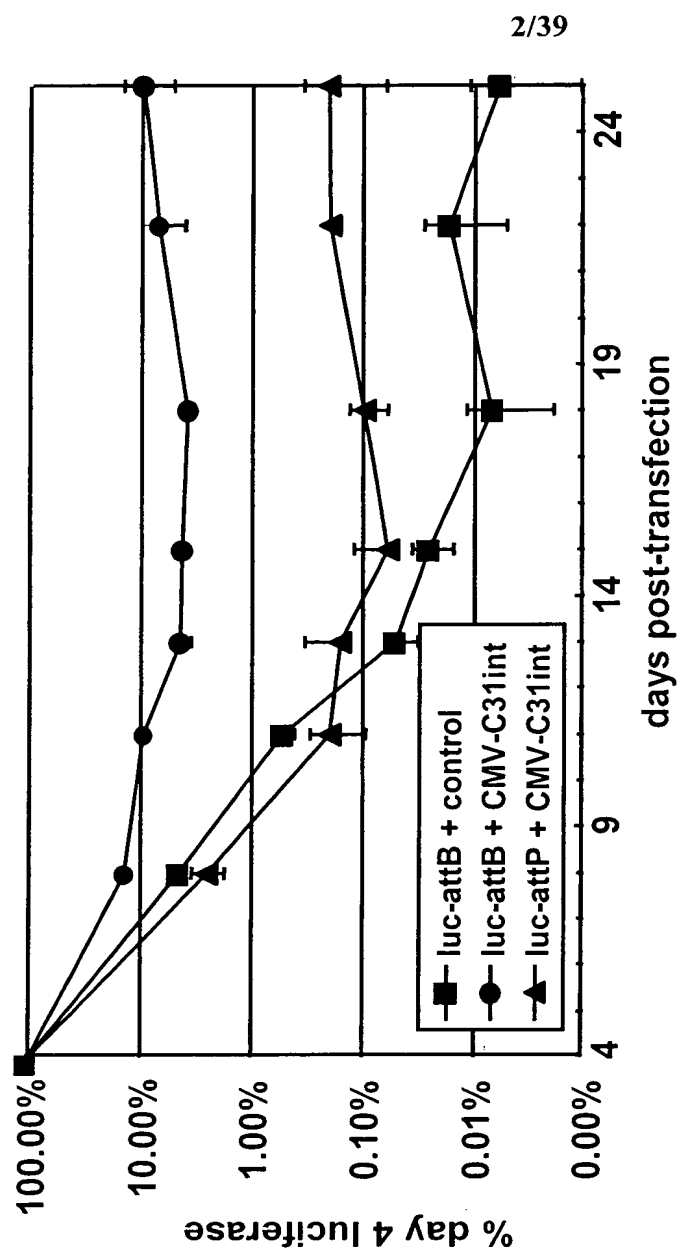
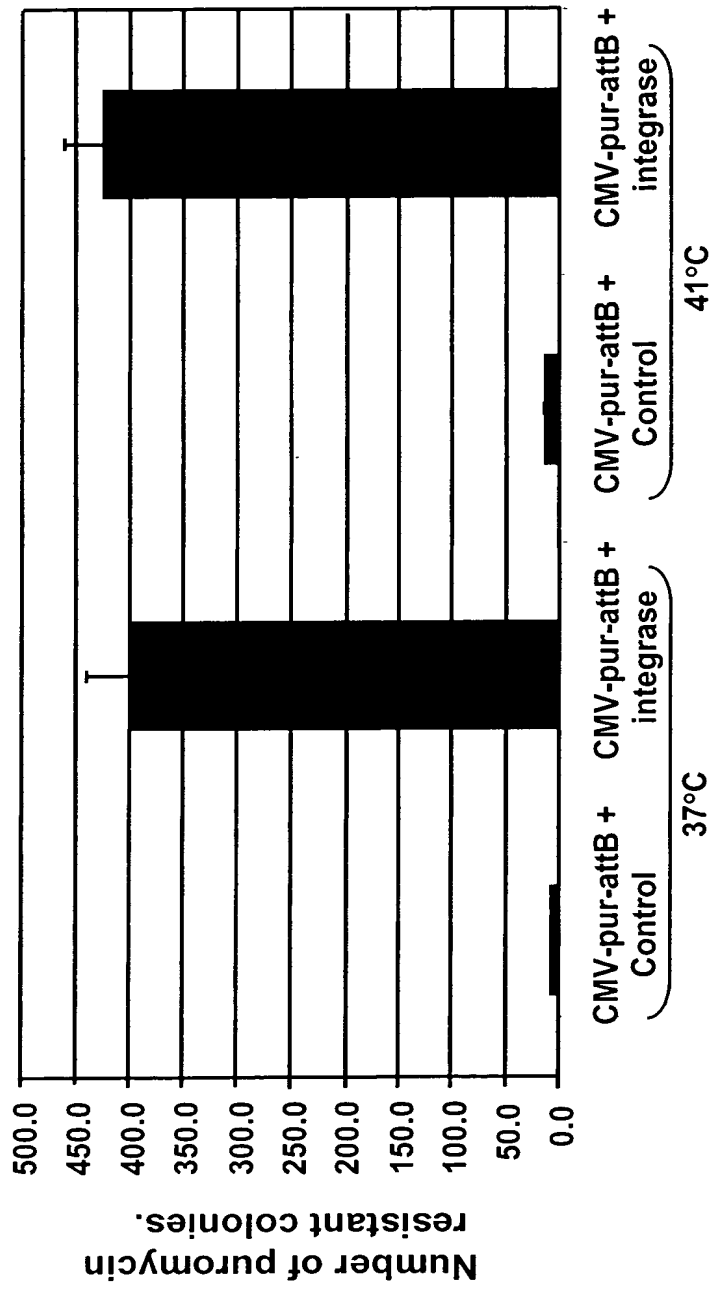
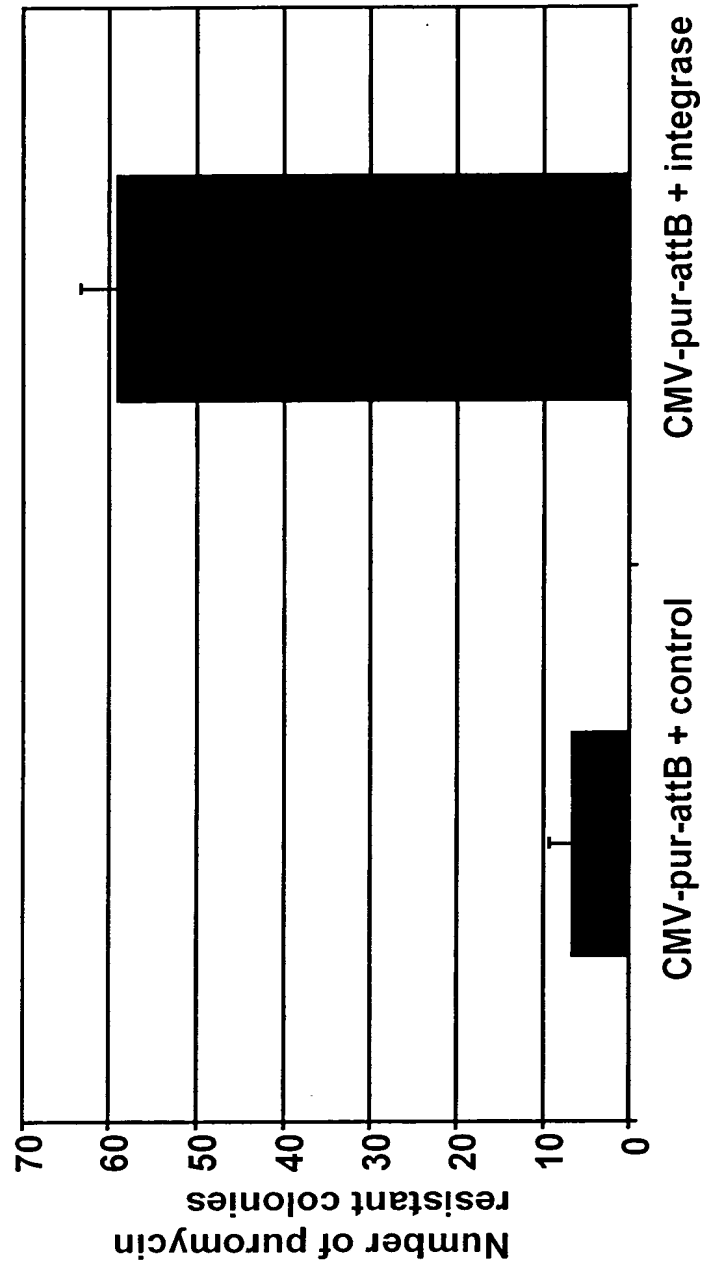


Fig. 1

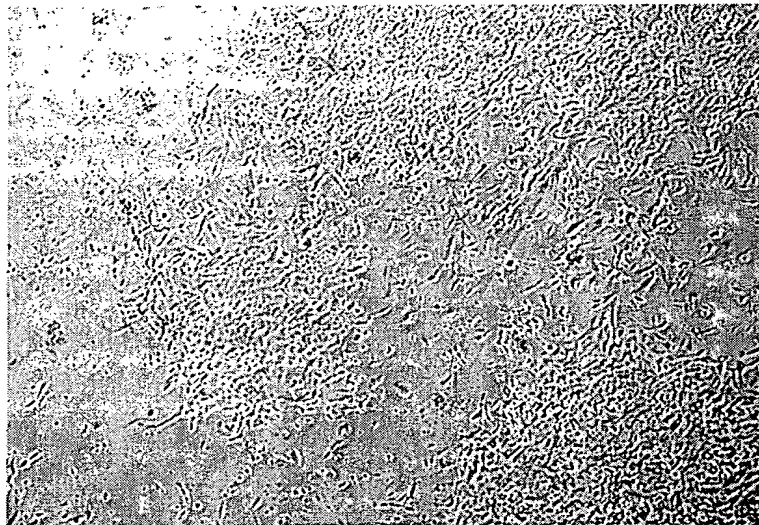
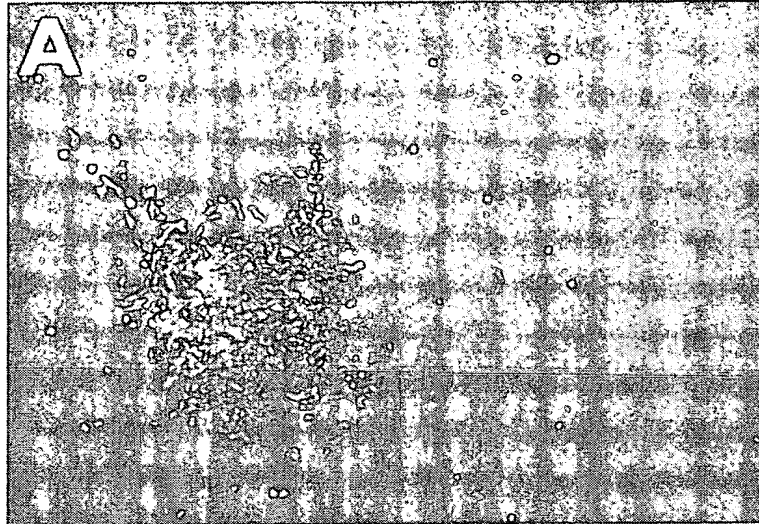


*Fig. 2*

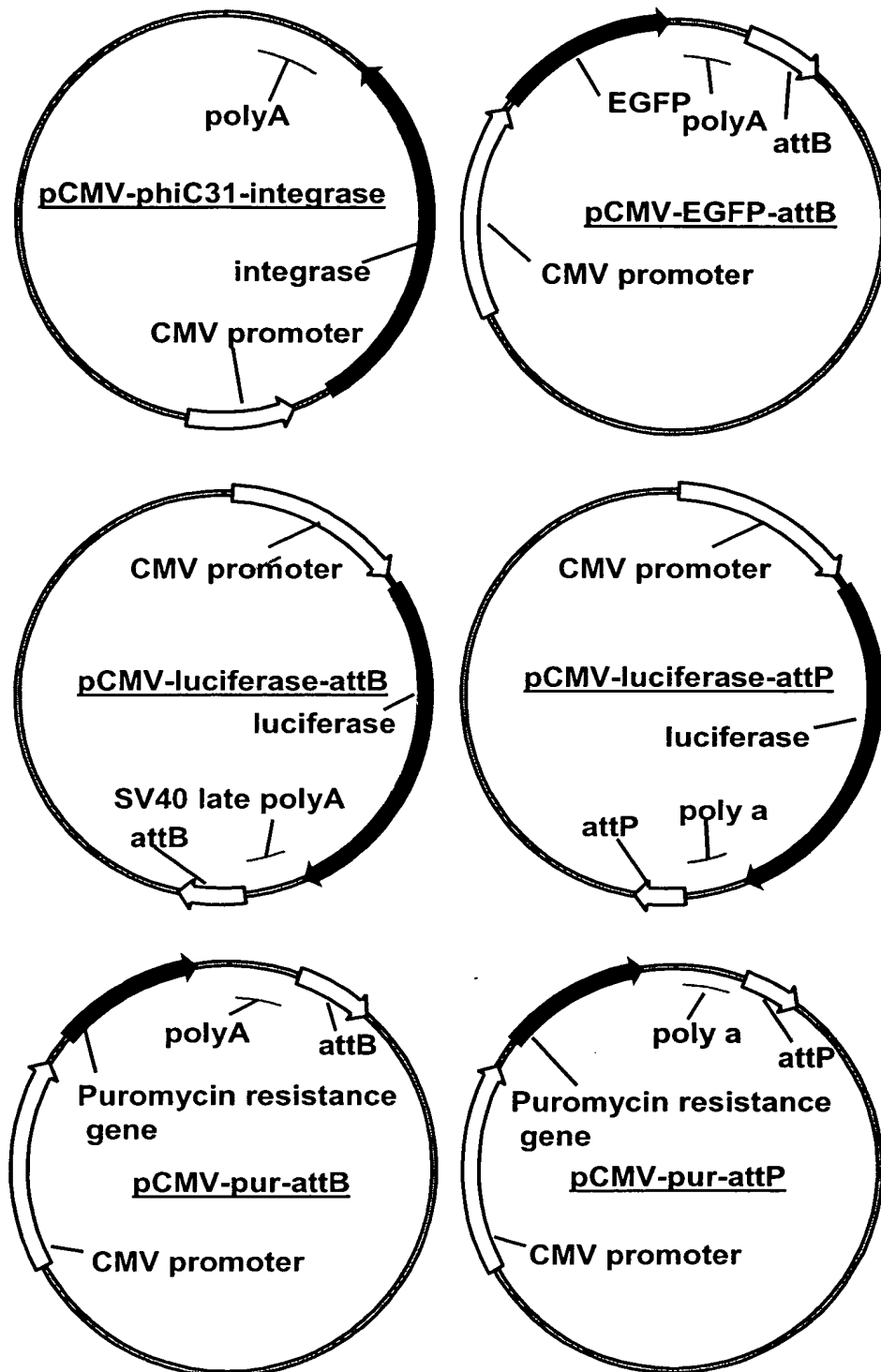
**Fig. 3**

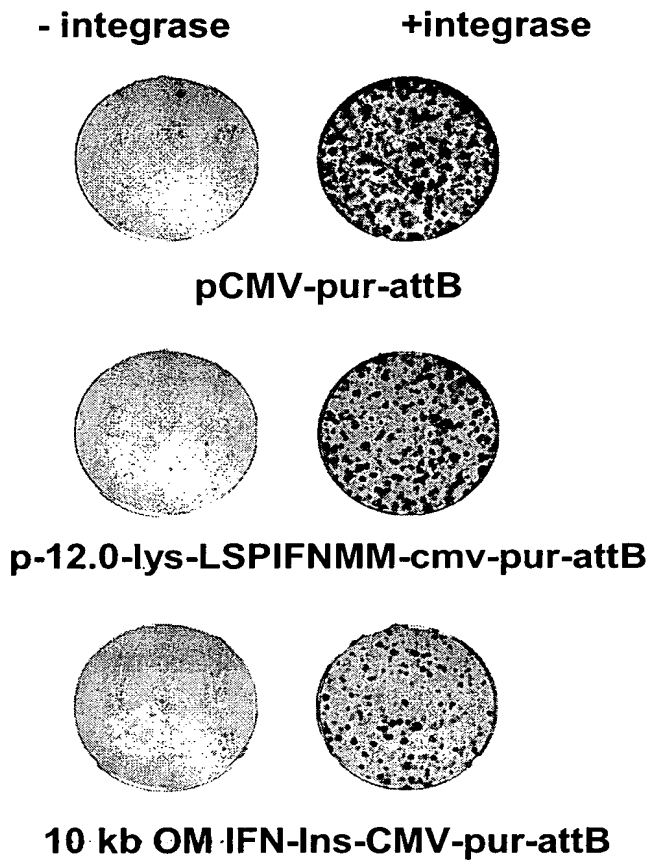
**Fig. 4**

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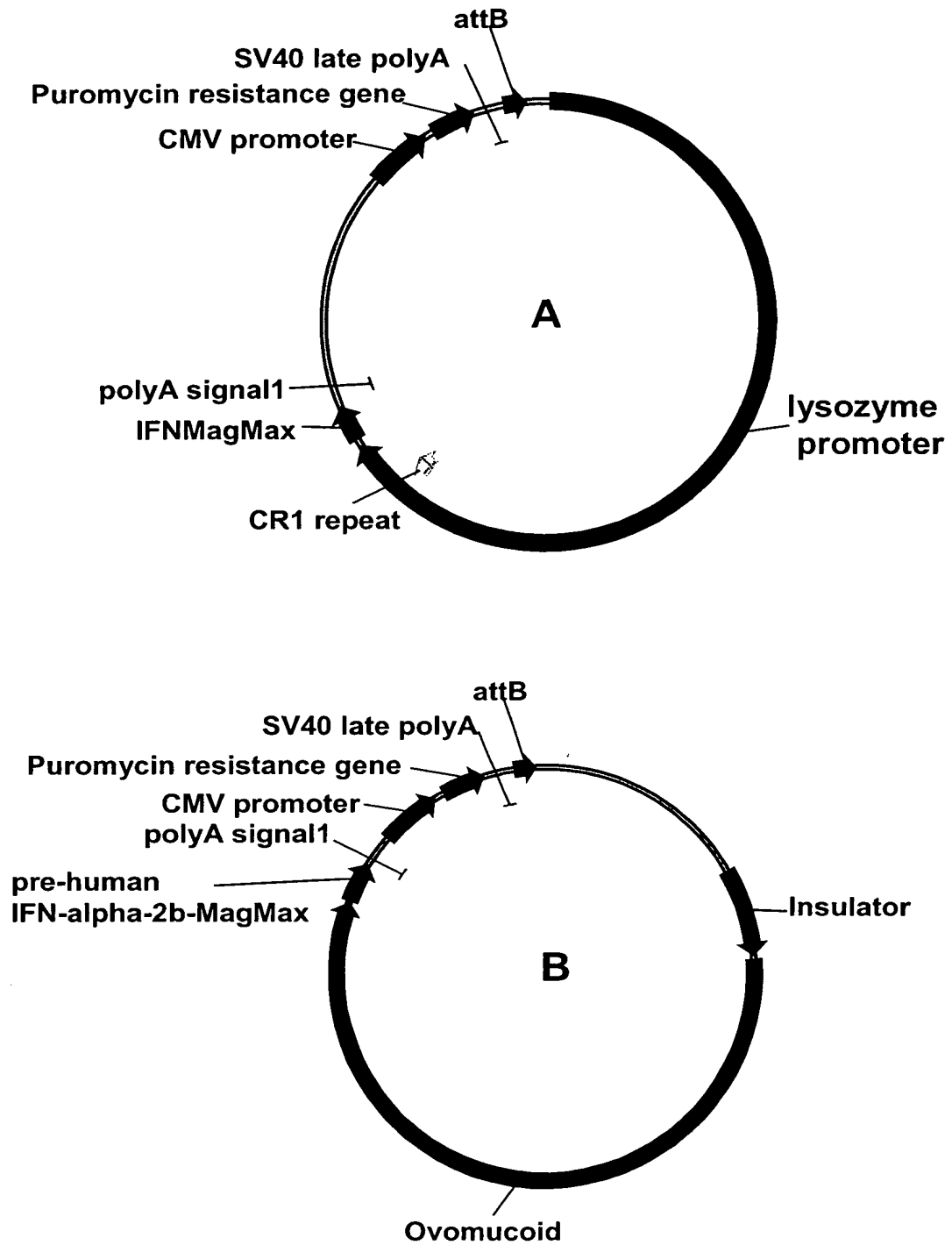


**Fig. 5**

**Fig. 6**



***Fig. 7***

**Fig. 8**



**pCMV-C31int (SEQ ID NO: 1)**

CATTCGCCATTTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGCTATT  
ACGCCAGCCAATACGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCAATATGCAGGATCG  
ATCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAAATGCAGTGAAAA  
AAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAA  
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AGGTTTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGCTGATTATGATCATGAACAG  
ACTGTGAGGACTGAGGGGCCTGAAATGAGCCTTGGGACTGTGAATCTAAAATACACAAACAA  
TTAGAATCACTAGCTCCTGTGTATAATATTTTCATAAATCATACTCAGTAAGCAAACTCTC  
AAGCAGCAAGCATATGCAGCTAGTTTAAACACATTATACACTTAAAAATTTTATATTTACCTT  
AGAGCTTTAAATCTCTGTAGGTAGTTTGTCCAATTATGTACACCACAGAAGTAAGGTTCCCT  
TCACAAAGATCCCAAGCTAGCTTATAATACGACTCACTATAGGGAGAGACTATGACGTCGC  
ATGCACGCGTAAGCTTGGGCCCCCTCGAGGGATCCGGGTGTCTCGCTACGCCGCTACGTCTTC  
CGTGCCGTCTGGGCGTCGTCTTCGTGTCGTGCGTTCGGCGGCTTCGCCACGTGATCGAAG  
CGCGCTTCTCGATGGGCGTTCCCTGCCCCCTGCCCCGTAGTCGACTTCGTGACAACGATCTTG  
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TTGCGCGTGATCTCCTTCGTCTCCGAAACAAGCTCGAAGCCGTAAGGCGCCTTCCCGCCGAC  
GTACCCGCCCAATTTCGCGCTGAAGGTTCTTCGTGTCGAGAATCTTCGCCGACTTCAGCGAAG  
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 ATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAA  
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 TCACGTTAAGGGATTTTGGTTCATGCCATAACTTCGTATAGCATAACATTATACGAAGTTATGG  
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**Fig. 9**

**pCMV-luc-attB (SEQ ID NO: 2)**

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GACCGCCCAACGACCCCCGCCCATTGACGTCAATAATGACGTATGTTCCCATAGTAACGCCA  
ATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGGCAGT  
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GTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTTGACGTCAATGGGAGTTTGTGTTTGGC  
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CCTGGAACAATTGCTTTTACAGATGCACATATCGAGGTGGACATCACTTACGCTGAGTACTT  
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 TTTCTCCCTTCGGAAGCGTGGCGTTTTCTCAATGCTCACGCTGTAGGTATCTCAGTTCGGT  
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 TAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGACCCA  
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 ACGCCAGCCCAAGCTACCATGATAAGTAAGTAATATTAAGGTACGGGAGGTACTTGGAGCGG  
 CCGCAATAAAAAATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGATAG  
 TACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTC  
 CCCAGTGCAAGTGCAGGTGCCAGAACATTT

**Fig. 10**

**pCMV-luc-attP (SEQ ID NO: 3)**

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TGACCGCCATGTTGACATTGATTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCATT  
AGTTCATAGCCCATATATGGAGTTCGCGGTTACATAACTTACGGTAAATGGCCCCGCTGGCT  
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CGAACACTTCTTCATCGTTGACCGCCTGAAGTCTCTGATTAAGTACAAAGGCTATCAGGTGG  
CTCCCGCTGAATTGGAATCCATCTTGCTCCAACACCCCAACATCTTCGACGCAGGTGTGCA  
GGTCTTCCCGACGATGACGCCGGTGAACCTCCCGCCGCGTGTGTTGTTTGGAGCACGGAAA  
GACGATGACGGAAAAAGAGATCGTGGATTACGTGCGCCAGTCAAGTAACAACCGCGAAAAAGT  
TGCGCGGAGGAGTTGTGTTTGTGGACGAAGTACCGAAAGGTCTTACCGGAAAACCTCGACGCA  
AGAAAAATCAGAGAGATCCTCATAAAGGCCAAGAAGGGCGGAAAGATCGCCGTGTAATTCTA  
GAGTCGGGGCGGCCGGCCGCTTCGAGCAGACATGATAAGATACATTGATGAGTTTGGACAAA  
CCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTA  
TTTGTAAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTTCATTTTATGTT  
TCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTA  
AAATCGATAAGGATCAATTCGGCTTCGACTAGTACTGACGGACACACCGAAGCCCGCGGC  
AACCCTCAGCGGATGCCCGGGGCTTCACGTTTTTCCAGGTGAGAAGCGGTTTTTGGGAGTA  
GTGCCCCAACTGGGGTAACCTTTGAGTTCTCTCAGTTGGGGGCGTAGGGTCGCCGACATGAC  
ACAAGGGGTTGTGACCGGGGTGGACACGTACGCGGGTGCTTACGACCGTCAGTCGCGCGAGC

GCGACTAGTACAAGCCGAATTGATCCGTCGACCGATGCCCTTGAGAGCCTTCAACCCAGTCA  
 GCTCCTTCCGGTGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTTTATC  
 ATGCAACTCGTAGGACAGGTGCCGGCAGCGCTCTTCCGCTTCCCTCGCTCACTGACTCGCTGC  
 GCTCGGTCTGTTCCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCC  
 ACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAA  
 CCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACA  
 AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACACAGGCGTTT  
 CCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTC  
 CGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCAATGCTCACGCTGTAGGTATCTCAGTT  
 CGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTACGCCCCGACCGC  
 TCGGCCTTATCCGGTAACATATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACT  
 GGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCT  
 TGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTG  
 AAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGG  
 TAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAG  
 ATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAACTCACGTTAAGGGATT  
 TTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATTAAAAATGAAGTTT  
 TAAATCAATCTAAAGTATATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTG  
 AGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCATAGTTGCCTGACTCCCCGTCGTG  
 TAGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGA  
 CCCACGCTCACCGGCTCCAGATTTATCAGCAATAAACAGCCAGCCGGAAGGGCCGAGCGCA  
 GAAGTGGTCTTGAACCTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGA  
 GTAAGTAGTTCGCCAGTTAATAGTTTTCGCAACGTTGTTGCCATTGCTACAGGCATCGTGGT  
 GTCACGCTCGTCGTTTGGTATGGCTTCATTCAGCTCCGGTTCCCAACGATCAAGGCGAGTTA  
 CATGATCCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCTCCGATCGTTGTGAGA  
 AGTAAGTTGGCCAGTGTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGT  
 CATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAGAAT  
 AGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAAATACCGCGCCACAT  
 AGCAGAACTTTAAAAGTGCTCATCATTGGAACCGTTCTTCGGGGCGAAAACTCTCAAGGAT  
 CTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTCAGCAT  
 CTTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAAACAGGAAGGCAAAATGCCGCAAAAAAG  
 GGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTTCAATATTATTGAAG  
 CATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAAC  
 AAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGCGCCCTGTAGCGGCGCA  
 TTAAGCGCGGCGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCCTAGC  
 GCCCCGCTCCTTTCGCTTTCTTCCCTTCTTCTCGCCACGTTCCGCGGCTTTCCCCGTCAAG  
 CTCTAAATCGGGGGCTCCCTTTAGGGTTCGATTTAGTGCTTTACGGCACCTCGACCCCCAAA  
 AACTTTGATTAGGGTGATGGTTTACGTAAGTGGGCCATCGCCCTGATAGACGGTTTTTCGCCC  
 TTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACTGGAACAACACTCA  
 ACCCTATCTCGGTCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTTCGGCCTATTGGTTA  
 AAAAATGAGCTGATTTAACAAAAATTTAACGCGAATTTTAAACAAAATATTAACGTTTACAAT  
 TTCCCATTCGCCATTACAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGC  
 TATTACGCCAGCCCCAAGCTACCATGATAAGTAAGTAATATTAAGGTACGGGAGGTACTTGGA  
 GCGGCCGCAATAAAATATCTTTATTTTATTACATCTGTGTGTTGGTTTTTTGTGTGAATCG  
 ATAGTACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGC  
 TGTCCCAGTGCAAGTGCAGGTGCCAGAACATTT

**Fig. 11**

**pCMV-pur-attB (SEQ ID NO: 4)**

CTAGAGTCGGGGCGGCCGGCCGCTTCGAGCAGACATGATAAGATACATTGATGAGTTTGGAC  
AAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCT  
TTATTTGTAAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTAT  
GTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTTAAAGCAAGTAAAACCTCTACAAATGTG  
GTAAAATCGATAAGGATCAATTCGGCTTCAGGTACCGTCGACGATGTAGGTCACGGTCTCGA  
AGCCGCGGTGCGGGTGCCAGGGCGTGCCCTTGGGCTCCCCGGGCGCGTACTCCACCTCACCC  
ATCTGGTCCATCATGATGAACGGGTGCGAGGTGGCGGTAGTTGATCCCGGCGAACGCGCGGCG  
CACCGGAAGCCCTCGCCCTCGAAACCGCTGGGCGCGGTGGTCACGGTGAGCACGGGACGTG  
CGACGGCGTCGGCGGGTGCGGATACGCGGGGCGAGCGTCAGCGGGTTCTCGACGGTCACGGCG  
GGCATGTCGACGCGGAATTGATCCGTGACCGATGCCCTTGAGAGCCCTCAACCCAGTCAG  
CTCCTTCCGGTCGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTTTATCA  
TGCAACTCGTAGGACAGGTGCCGCGAGCGCTCTTCCGCTTCCTCGCTCACTGACTCGCTGCG  
CTCGGTGCTTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAAATACGGTTATCCA  
CAGAATCAGGGGATAACGCGAGGAAAGACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAAC  
CGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAA  
AAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTT  
CCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCGACCCCTGCCGCTTACCGGATACCTGTCC  
GCCTTTCTCCCTTCGGGAAGCGTGCGCTTTCTCAATGCTCACGCTGTAGGTATCTCAGTTC  
GGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTACGCCCCGACCGCT  
GCGCCTTATCCGGTAACCTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTG  
GCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTT  
GAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGA  
AGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGT  
AGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGA  
TCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAACTCACGTTAAGGGATTT  
TGGTTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATTAAAAATGAAGTTTT  
AAATCAATCTAAAGTATATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGA  
GGACCTTATCTCAGCGATCTGTCTATTTCTGTTTCATCCATAGTTGCCTGACTCCCCGTCGTGT  
AGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGAC  
CCACGCTCACCGGCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGCGCAG  
AAGTGGTCCTGCAACTTTATCCGCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGAG  
TAAGTAGTTCGCCAGTTAATAGTTTGCGCAACGTTGTTGCCATTGCTACAGGCATCGTGGTG  
TCACGCTCGTCGTTTTGGTATGGCTTCATTACGCTCCGGTTCCCAACGATCAAGGCGAGTTAC  
ATGATCCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCCTCCGATCGTTGTCAGAA  
GTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGTC  
ATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAGAATA  
GTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAATACCGCGCCACATA  
GCAGAACTTTAAAAGTGCTCATCATTTGGAACGTTCTTCGGGGCGAAACTCTCAAGGATC  
TTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGACCCAACTGATCTTCAGCATC  
TTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAAGG  
GAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTTCAATATTATTGAAGC  
ATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAACA  
AATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGCGCCCTGTAGCGGCGCAT  
TAAGCGCGGCGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCCTAGCG  
CCCGCTCCTTCGCTTTCTTCCCTTCTTCTCGCCACGTTGCGCGGCTTTCCCCGTCAAGC  
TCTAAATCGGGGCTCCCTTTAGGGTTCGATTTAGTGCTTTACGGCACCTCGACCCCAAAA  
AAGTTGATTAGGGTGATGGTTACGTTAGTGAGGTCATCGCCCTGATAGACGGTTTTTCGCCCT  
TTGACGTTGGAGTCCACGTTCTTTAATAGTGAGTCTTGTTCCAAACCTGGAACAACACTCAA  
CCCTATCTCGGTCTATTCTTTTGAATTTATAAGGGATTTTGCCGATTTGCGCCTATTGGTTAA  
AAAATGAGCTGATTTAACAAAAATTTAACGCGAATTTTAACAAAAATTTAACGTTTACAATT

TCCCATTCGCCATTTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGCT  
 ATTACGCCAGCCCAAGCTACCATGATAAGTAAGTAATATTAAGGTACGGGAGGTACTTGGAG  
 CGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGA  
 TAGTACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCT  
 GTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGATAGGTACCGAGCTCTTACGC  
 GTGCTAGCCCTCGAGCAGGATCTATACATTGAATCAATATTGGCAATTAGCCATATTAGTCA  
 TTGGTTATATAGCATAAATCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCAT  
 AATATGTACATTTTATATTGGCTCATGTCCAATATGACCGCCATGTTGACATTGATTATTGAC  
 TAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCCGCG  
 TTACATAACTTACGGTAAATGGCCCGCTGGCTGACCGCCCAACGACCCCGCCCATTTGACG  
 TCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGT  
 GGAGTATTTACGGTAAACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGC  
 CCCCTATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCCAGTACATGACCTTA  
 CGGGACTTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCG  
 GTTTTGGCAGTACATCAATGGGCGTGGATAGCGGTTTGACTCACGGGGATTTCCAAGTCTCC  
 ACCCCATTGACGTCAATGGGAGTTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGT  
 CGTAACAACCTCCGCCCCATTGACGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATAT  
 AAGCAGAGCTCGTTTAGTGAACCGTCAGATCGCCTGGAGACGCCATCCACGCTGTTTTGACC  
 TCCATAGAAGACACCGGGACCGATCCAGCCTCCCCCTCGAAGCTCGACTCTAGGGGCTCGAGA  
 TCTGCGATCTAAGTAAGCTTGCATGCCTGCAGGTGCGCCGCCACGACCGGTGCCGCCACCAT  
 CCCCTGACCCACGCCCCCTGACCCCTCACAAAGGAGACGACCTTCCATGACCGAGTACAAGCCC  
 ACGGTGCGCCTCGCCACCCGCGACGACGTCCCCCGGGCCGTACGCACCCCTCGCCGCCGCGTT  
 CGCCGACTACCCCGCCACGCGCCACACCGTCGACCCGGACCGCCACATCGAGCGGGTCACCG  
 AGCTGCAAGAACTCTTCCTCACGCGCGTCGGGCTCGACATCGGCAAGGTGTGGGTGCGGGAC  
 GACGGCGCCGCGGTGGCGGTCTGGACCACGCCGGAGAGCGTCGAAGCGGGGGCGGTGTTTCGC  
 CGAGATCGGCCCCGCGCATGGCCGAGTTGAGCGGTTCCCGGCTGGCCGCGCAGCAACAGATGG  
 AAGGCCTCCTGGCGCCGCACCGGCCCAAGGAGCCCGCGTGGTTCTTGCCACCGTCGGCGTC  
 TCGCCCGACCAACAGGGCAAGGTCTGGGCAGCGCCGTCGTGCTCCCCGGAGTGGAGGCGGC  
 CGAGCGCGCCGGGGTGCCCGCCTTCTTGAGACCTCCGCGCCCCGCAACCTCCCCCTTCTACG  
 AGCGGCTCGGCTTACCGTCAACCGCCGACGTGAGGTGCCCGAAGGACCGCGCACCTGGTG  
 ATGACCCGCAAGCCCGGTGCCTGACGCCCCGCCACGACCCGCGAGCGCCCGACCGAAAGGAG  
 CGCACGACCCCATGGCTCCGACCGAAGCCGACCCGGGCGGCCCCGCGACCCCGCACCCGCC  
 CCGGAGGCCCAACCGACT

**Fig. 12**



**pCMV-pur-attP (SEQ ID NO: 5)**

CTAGAGTCGGGGCGGCCGCTTCGAGCAGACATGATAAGATACATTGATGAGTTTGGAC  
AAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCT  
TTATTTGTAAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCAATTTTAT  
GTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTG  
GTAAAATCGATAAGGATCAATTCGGCTTCGACTAGTACTGACGGACACACCGAAGCCCCGGC  
GGCAACCCCTCAGCGGATGCCCCGGGGCTTCACGTTTTCCAGGTCAGAAGCGGTTTTTCGGGA  
GTAGTGCCCCAACTGGGGTAACCTTTGAGTTCTCTCAGTTGGGGGCGTAGGGTCGCCGACAT  
GACACAAGGGGTTGTGACCGGGGTGGACACGTACGCGGGTGCTTACGACCGTCAGTCGCGCG  
AGCGCGACTAGTACAAGCCGAATTGATCCGTCGACCGATGCCCTTGAGAGCCTTCAACCCAG  
TCAGCTCCTTCCGGTGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTTT  
ATCATGCAACTCGTAGGACAGGTGCCGGCAGCGCTCTTCCGCTTCTCGCTCACTGACTCGC  
TGCGCTCGGTTCGTTTCGGCTGCCGGCAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTA  
TCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAG  
GAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATC  
ACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCG  
TTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCGACCCCTGCCGCTTACCGGATACCT  
GTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCAATGCTCAGCTGTAGGTATCTCA  
GTTTCGGTGTAGGTTCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTTCAGCCCCGAC  
CGCTGCGCCTTATCCGGTAACCTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCC  
ACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGT  
TCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTG  
CTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGC  
TGGTAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAG  
AAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGG  
ATTTTGGTTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATTA AAAATGAAG  
TTTTAAATCAATCTAAAGTATATATGAGTAACTTGGTCTGACAGTTACCAATGCTTAATCA  
GTGAGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCATAGTTGCCTGACTCCCCGTC  
GTGTAGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCG  
AGACCCACGCTCACCGGCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGC  
GCAGAAGTGGTTCCTGCAACTTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCT  
AGAGTAAGTAGTTCCGCAGTTAATAGTTTGCGCAACGTTGTTGCCATTGCTACAGGCATCGT  
GGTGTACGCTCGTTCGTTTGGTATGGCTTCATTACGCTCCGGTTCCCAACGATCAAGGCGAG  
TTACATGATCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCTCCGATCGTTGTC  
AGAAGTAAGTTGGCCGCGAGTGTTACTCATGGTTATGGCAGCACTGCATAATTCTCTTAC  
TGTTCATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAG  
AATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAATACCGCGCCA  
CATAGCAGAACTTTAAAGTGCTCATCATTGAAAAAGCTTCTTCGGGGCGAAAACTCTCAAG  
GATCTTACCCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGACCCCACTGATCTTCAG  
CATCTTTTACTTTACACGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAA  
AAGGGAATAAGGGCGACACGGAATGTTGAATACTCATACTCTTCCTTTTCAATATTATTG  
AAGCATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATA  
AACAAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGCGCCCTGTAGCGGC  
GCATTAAGCGCGGGCGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCCT  
AGCGCCCGCTCCTTTTCGCTTTCTTCCCTTCCTTTCTCGCCACGTTTCGCCGCTTTCCCCGTC  
AAGCTCTAAATCGGGGGCTCCCTTTAGGGTTCCGATTTAGTGCTTTACGGCACCTCGACCCC  
AAAAA ACTTGATTAGGGTGATGGTTCACGTAGTGGGCCATCGCCCTGATAGACGGTTTTTTTCG  
CCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACTGGAACAACAC  
TCAACCCTATCTCGGTCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTCCGGCTATTGG  
TTAAAAAATGAGCTGATTTAACAAAAATTTAACGCGAATTTTAAACAAAATATTAACGTTTAC  
AATTTCCCATTCGCCATTACGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTT

CGCTATTACGCCAGCCCAAGCTACCATGATAAGTAAGTAATATTAAGGTACGGGAGGTACTT  
 GGAGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAA  
 TCGATAGTACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATA  
 GGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGATAGGTACCGAGCTCTT  
 ACGCGTGCTAGCCCTCGAGCAGGATCTATACATTGAATCAATATTGGCAATTAGCCATATTA  
 GTCATTGGTTATATAGCATAAATCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATA  
 TCATAATATGTACATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGACATTGATTAT  
 TGACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTC  
 CGCGTTACATAACTTACGGTAAATGGCCCGCTGGCTGACCGCCCAACGACCCCCGCCCCATT  
 GACGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCATTGACGTCAAT  
 GGGTGGAGTATTTACGGTAAACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGT  
 CCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCCAGTACATGAC  
 CTTACGGGACTTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGA  
 TGCGGTTTTTGGCAGTACATCAATGGGCGTGGATAGCGGTTTTGACTCACGGGGATTTCCAAGT  
 CTCCACCCCATTTGACGTCAATGGGAGTTTGTTTTGGCACCAAAATCAACGGGACTTTTCCAAA  
 ATGTCGTAACAACCTCCGCCCCATTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGAGGTCT  
 ATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCGCCTGGAGACGCCATCCACGCTGTTTT  
 GACCTCCATAGAAGACACCGGGACCGATCCAGCCTCCCCTCGAAGCTCGACTCTAGGGGCTC  
 GAGATCTGCGATCTAAGTAAGCTTGCATGCCTGCAGGTGCGCCGCCACGACCGGTGCCGCCA  
 CCATCCCCTGACCCACGCCCCCTGACCCCTCACAAGGAGACGACCTTCCATGACCGAGTACAA  
 GCCCACGGTGCGCCTCGCCACCCGCGACGACGTCCCCCGGGCCGTACGCACCCCTCGCCGCCG  
 CGTTCGCCGACTACCCCGCCACGCGCCACACCGTCGACCCGGACCGCCACATCGAGCGGGTC  
 ACCGAGCTGCAAGAACTCTTCTCAGCGCGTCTGGGCTCGACATCGGCAAGGTGTGGGTCTGC  
 GGACGACGGCGCCGCGGTGGCGGTCTGGACCACGCCGGAGAGCGTCGAAGCGGGGGCGGTGT  
 TCGCCGAGATCGGCCCCGCGCATGGCCGAGTTGAGCGGTTCCCGGCTGGCCGCGCAGCAACAG  
 ATGGAAGGCCTCCTGGCGCCGCACCGGCCCAAGGAGCCCGCGTGGTTCTTGGCCACCGTCGG  
 CGTCTCGCCCCGACCACAGGGCAAGGGTCTGGGCAGCGCCGTCGTGCTCCCCGAGTGGAGG  
 CGGCCGAGCGCGCCGGGTGCCCGCCTTCTTGGAGACCTCCGCGCCCCGCAACCTCCCCCTTC  
 TACGAGCGGCTCGGCTTCACCGTCACCGCCGACGTCGAGGTGCCCCGAAGGACCGCGCACCTG  
 GTGCATGACCCGCAAGCCCGGTGCCTGACGCCCCGCCCCACGACCCGCGAGCGCCCGACCGAAA  
 GGAGCGCACGACCCCATGGCTCCGACCGAAGCCGACCCGGGCGGCCCGCCGACCCCGCACCC  
 CGCCCCCGAGGCCCACCGACT

**Fig. 13**

**pCMV-EGFP-attB (SEQ ID NO: 6)**

CTAGAGTCGGGGCGGCCGGCCGCTTCGAGCAGACATGATAAGATACATTGATGAGTTTGGAC  
AAACCACAAC TAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCT  
TTATTTGTAAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCATTTTAT  
GTTTCAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTTAAAGCAAGTAAAACCTCTACAAATGTG  
GTAAAATCGATAAGGATCAATTCGGCTTCAGGTACCGTCGACGATGTAGGTCACGGTCTCGA  
AGCCGCGGTGCGGGTGCCAGGGCGTGCCCTTGGGCTCCCCGGGCGCGTACTCCACCTCACCC  
ATCTGGTCCATCATGATGAACGGGTTCGAGGTGGCGGTAGTTGATCCCCGGCGAACGCGCGGCG  
CACCGGAAGCCCTCGCCCTCGAAACCGCTGGGCGCGGTGGTCACGGTGAGCACGGGACGTG  
CGACGGCGTTCGGCGGGTGCGGATACGCGGGGCAGCGTCAGCGGGTTCTCGACGGTCACGGCG  
GGCATGTTCGACAGCCGAATTGATCCGTCGACCGATGCCCTTGAGAGCCTTCAACCCAGTCAG  
CTCCTTCCGGTGGGCGCGGGGCATGACTATCGTCGCCGCACTTATGACTGTCTTCTTTATCA  
TGCAACTCGTAGGACAGGTGCCGGCAGCGCTCTTCCGCTTCTCGCTCACTGACTCGCTGCG  
CTCGGTGTTTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCA  
CAGAATCAGGGGATAACGCAGGAAAGACATGTAGCAAAAGGCCAGCAAAAGGCCAGGAAC  
CGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAA  
AAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGCGTTTTT  
CCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCC  
GCCTTTCTCCCTTCGGGAAGCGTGCGCTTTCTCAATGCTCACGCTGTAGGTATCTCAGTTC  
GGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTACGCCGACCGCT  
GCGCCTTATCCGGTAAC TATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTG  
GCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTT  
GAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGA  
AGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGT  
AGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGA  
TCCTTTGATCTTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATT  
TGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATTA AAAATGAAGTTTT  
AAATCAATCTAAAGTATATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGA  
GGCACCTATCTCAGCGATCTGTCTATTTCTGTTTCATCCATAGTTGCCTGACTCCCCGTGCTGT  
AGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGAC  
CCACGCTCACCGGCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGCGCAG  
AAGTGGTCTCGCAACTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGAG  
TAAGTAGTTCGCCAGTTAATAGTTTGCGCAACGTTGTTGCCATTGCTACAGGCATCGTGGT  
TCACGCTCGTCGTTTGTTGATGGCTTCACTCAGCTCCGGTTCCCAACGATCAAGGCGAGTTAC  
ATGATCCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCTCCGATCGTTGTGAGAA  
GTAAGTTGGCCGAGTGTTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGTC  
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**Fig. 14**

**p-12.0-lys-LSPIFNMM-CMV-pur-attB (SEQ ID NO: 7)**

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AGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGA  
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**Fig. 15**

**pOM IFN-Ins-CMV-pur-attB (SEQ ID NO: 8)**

GGCCGCCACCGCGGTGGAGCTCCAATTGCGCCTATAGTGAGTCGTATTACAATTCACTGGCC  
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 TTTGGTATGGTAGTCTTGCAGAGAATACAACATCAATATTAGTTTGGAAAAAACACCACCA  
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 GCAGATGAAATCCTTTTCTAGGGGTAGCTAAGGGCTGAGCAACCTGTCTACAGACACAAGCC  
 AAACCAGCCAAGGGTTTTCTGTGCTGTTTACAGAGGCAGGGCCAGCTGGAGCTGGAGGAGG  
 TTGTGCTGGGACCCTTCTCCCTGTGCTGAGAATGGAGTGATTTCTGGGTGCTGTTCTGTGG  
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**Fig. 16**



**pRSV-C31int (SEQ ID NO: 9)**

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 CCCAAGTATCTTACGATCTTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAAACGGA  
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 TTCCTTTTTCAATATTATTGAAGCATTATCAGGGTTATTGTCTCATGAGCGGATACATA  
 TTTGAATGTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTG  
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**Fig. 17**

**pCR-XL-TOPO-CMV-PUR-attB (SEQ ID NO: 10)**

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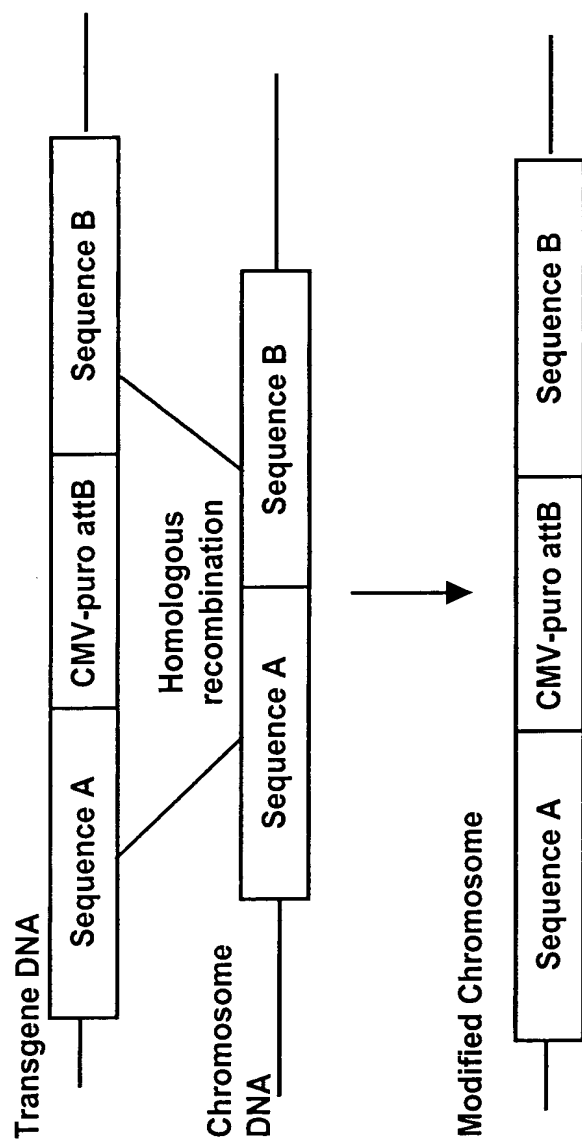
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 GGGCACAACAGACAATCGGCTGCTCTGATGCCGCCGTGTTCCGGCTGTGACGCGAGGGGC  
 GCCCGGTTCTTTTTGTCAAGACCGACCTGTCCGGTGCCCTGAATGAACTGCAAGACGAGG  
 CAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCCTTGCGCAGCTGTGCTCGACGTTG  
 TCACTGAAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGT  
 CATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGC  
 ATACGCTTGATCCGGCTACCTGCCATTTCGACCAACGAGCAACATCGCATCGAGCGAG  
 CACGTACTCGGATGGGAAGCCGCTCTTGTCGATCAGGATGATCTGGACGAAGAGCATCAGG  
 GGCTCGCGCCAGCCGAACGTTCGCCAGGCTCAAGGCGAGCATGCCCGACGGCGAGGATC  
 TCGTCGTGACCCATGGCGATGCCCTGCTTGCCGAATATCATGGTGGAATGGCCGCTTTT  
 CTGGATTGATCGACTGTGGCCGGCTGGGTGTGGCGGACCGCTATCAGGACATAGCGTTGG  
 CTACCCGTGATATTGCTGAAGAGCTTGCGCGCGAATGGGCTGACCGCTTCTCGTGCTTT  
 ACGGTATCGCCGCTCCCGATTTCGACGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCT  
 TCTGAATTATTAACGCTTACAATTTCTGATGCGGTATTTTCTCCTTACGCATCTGTGCG  
 GTATTTTACACCCGCATACAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTG  
 TTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCTGATAAAT  
 GCTTCAATAATAGCACGTGAGGAGGGCCACCATGGCCAAGTTGACCACTGCCGTTCCGGT  
 GCTCACCGCGCGCGACGTGCGCGGAGCGGTGAGTTCTGGACCGACCGGCTCGGGTTCTC  
 CCGGGACTTCGTGGAGGACGACTTCGCCGGTGTGGTCCGGGACGACGTGACCCTGTTTCAT  
 CAGCGCGGTCCAGGACCAGGTGGTGCCGGAACAACCCCTGGCCTGGGTGTGGGTGCGCGG  
 CCTGGACGAGCTGTACGCCGAGTGGTCCGAGGTCTGTGTCACGAACCTTCGGGACGCCTC  
 CGGGCCGGCCATGACCGAGATCGGCGAGACCGGTGGGGGCGGGAGTTTCGCCCTGCGCGA  
 CCCGGCCGGCAACTGCGTGCACTTCGTGGCCGAGGAGCAGGACTGACACGTGCTAAAAC  
 TCATTTTTTAATTTAAAAGGATCTAGGTGAAGATCCTTTTGTGATAATCTCATGACCAAAAT  
 CCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATC  
 TTCTTGAGATCCTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAACCACCGCT  
 ACCAGCGGTGGTTTGTGTTGCCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAAGTGG  
 CTTTCAGCAGAGCGCAGATACCAATACTGTCTTCTAGTGTAGCCGTAGTTAGGCCACCA  
 CTTCAAGAACTCTGTAGCACCGCCTACATACCTCGCTCTGCTAATCCTGTTACCAAGTGGC  
 TGCTGCCAGTGGCGATAAGTCGTGCTTACCGGGTGGACTCAAGACGATAGTTACCGGA  
 TAAGGCGCAGCGGTGGGCTGAACGGGGGTTCTGTGCACACAGCCCGCTTGGAGCGAAC  
 GACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCACGCTTCCCGA  
 AGGGAGAAAGGCGGACAGGTATCCGTAAGCGGCAGGGTGGGAACAGGAGAGCGCACGAG  
 GGAGCTTCAGGGGGAAACGCCCTGGTATCTTTATAGTCTGTGCGGTTTCGCCACCTCTG  
 ACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAG  
 CAACGCGGCCTTTTTACGTTCTTGGGCTTTTGCTGGCCTTTTGCTCACATGTTCTTTCC  
 TGGCTTATCCCTGATTCTGTGGATAACCGTATTACCGCCTTTGAGTGAGCTGATACCGC  
 TCGCCGAGCCGAACGACCGAGCGCAGCGAGTCAGTGAGCGAGGAAGCGGAAG

**FIG. 18**

**attP (SEQ ID NO: 11)**

GACTAGTACTGACGGACACACCGAAGCCCCGGCGGCAACCCTCAGCGGATGCCCCGGGGCTT  
CACGTTTTCCAGGTCAGAAGCGGTTTTCGGGAGTAGTGCCCCAACTGGGGTAACCTTTGAG  
TTCTCTCAGTTGGGGGCGTAGGGTCGCCGACATGACACAAGGGGTGTGACCGGGGTGGACA  
CGTACGCGGGTGCTTACGACCGTCAGTCGCGCGAGCGCGACTAGTACA

***Fig. 19***



**Fig. 20**

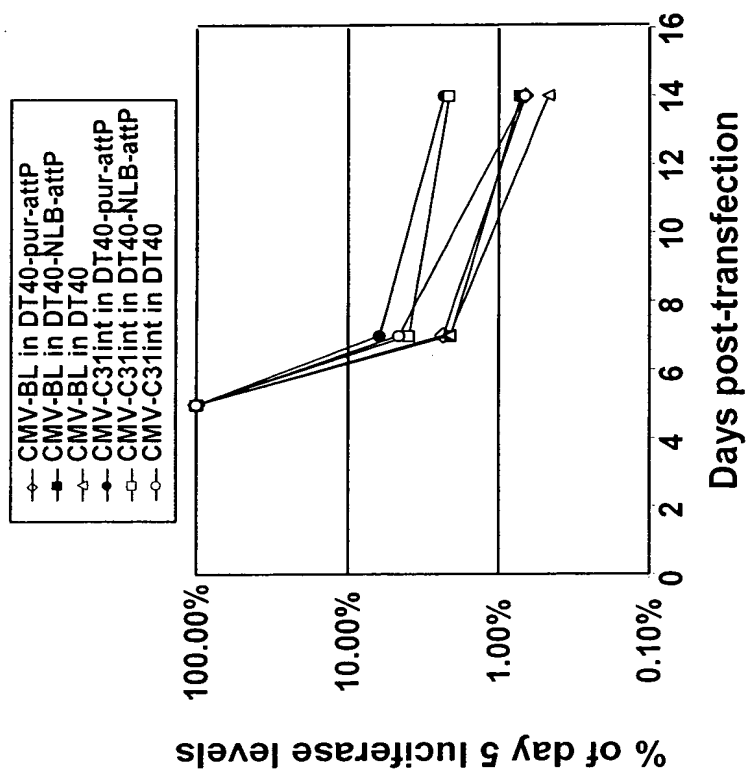


Fig. 21